

FORM PTO-1350 (Modified)  
(REV 11-2000)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTORNEY'S DOCKET NUMBER

**TRANSMITTAL LETTER TO THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US)  
CONCERNING A FILING UNDER 35 U.S.C. 371**

11042.00

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR

Unknown

09/889006

INTERNATIONAL APPLICATION NO.

PCT/DE99/04124

INTERNATIONAL FILING DATE

24 December 1999 (24.12.99)

PRIORITY DATE CLAIMED

08 January 1999 (08.01.99)

TITLE OF INVENTION

PACK

APPLICANT(S) FOR DO/EO/US

ZOLLER, Wolfram and HOMMOLA, Jurgen

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (24) indicated below.
4. ☐ The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371 (c) (2))
  - a. ☐ is attached hereto (required only if not communicated by the International Bureau).
  - b. ☒ has been communicated by the International Bureau.
  - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
  - a. ☒ is attached hereto.
  - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))
  - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
  - b. ☐ have been communicated by the International Bureau.
  - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
  - d. ☐ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).
10. ☐ An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).
11. ☐ A copy of the International Preliminary Examination Report (PCT/IPEA/409).
12. ☒ A copy of the International Search Report (PCT/ISA/210).

**Items 13 to 20 below concern document(s) or information included:**

13. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
14. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
15. ☐ A **FIRST** preliminary amendment.
16. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
17. ☐ A substitute specification.
18. ☐ A change of power of attorney and/or address letter.
19. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.
20. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
21. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
22. ☒ Certificate of Mailing by Express Mail
23. ☒ Other items or information:

**5 sheets of drawings (FIGS. 1-4)****A copy of the PCT International Application is enclosed herewith (although per enclosed notification, the International Bureau has transmitted a copy as well).**

U.S. APPLICATION NO. (IF KNOWN) SEE 37 CFR <b>097,889,006</b> Unknown	INTERNATIONAL APPLICATION NO. <b>PCT/DE99/04124</b>	ATTORNEY'S DOCKET NUMBER <b>11042.00</b>
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24. The following fees are submitted:

**BASIC NATIONAL FEE ( 37 CFR 1.492 (a) (1) - (5)) :**

- ☐ Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO ..... **\$1000.00**
- ☐ International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO ..... **\$860.00**
- ☐ International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO ..... **\$710.00**
- ☐ International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) ..... **\$690.00**
- ☐ International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) ..... **\$100.00**

**ENTER APPROPRIATE BASIC FEE AMOUNT =****\$860.00**

Surcharge of **\$130.00** for furnishing the oath or declaration later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492 (e)).

**\$0.00**

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE
Total claims	3 - 20 =	0	x \$18.00
Independent claims	1 - 3 =	0	x \$80.00

**\$0.00****\$0.00**Multiple Dependent Claims (check if applicable). ☐**\$0.00****TOTAL OF ABOVE CALCULATIONS =****\$860.00**

☐ Applicant claims small entity status. (See 37 CFR 1.27). The fees indicated above are reduced by 1/2.

**\$0.00****SUBTOTAL =****\$860.00**

Processing fee of **\$130.00** for furnishing the English translation later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492 (f)).

**\$0.00****TOTAL NATIONAL FEE =****\$860.00**

Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) (check if applicable). ☐

**\$0.00****TOTAL FEES ENCLOSED =****\$860.00**Amount to be:  
refunded

\$

charged

\$

- a. ☒ A check in the amount of **\$860.00** to cover the above fees is enclosed.
- b. ☐ Please charge my Deposit Account No. \_\_\_\_\_ in the amount of \_\_\_\_\_ to cover the above fees. A duplicate copy of this sheet is enclosed.
- c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. **04-1415**. A duplicate copy of this sheet is enclosed.
- d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. **Credit card information should not be included on this form.** Provide credit card information and authorization on PTO-2038.

**NOTE:** Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

SIGNATURE

Leonard J. Santisi

NAME

24,135

REGISTRATION NUMBER

DATE

July 6, 2001

5/PRTS

PACK

09/889006

532 Rec'd PCT/PTO 06 JUL 2001  
BACKGROUND OF THE INVENTION

- The present invention relates to a pack having at least one holding and carrying
- 5 handle comprising at least one flap or tab.

- Pourable material for domestic use, such as e.g. potting compost, cat litter, bird food or sand, is generally stored and transported in a pack made from tear-resistant material, such as e.g. plastic. As from a certain material quantity the difficulty arises
- 10 of having to lift or carry the pack, together with the material therein. This problem has been solved in certain cases by the central fitting of the handle to the top of the usually bag-like pack. The other function which a pack of pouring material has to fulfill is the targeted discharge of said material into a suitable collecting container, such as e.g. a flowerpot, cat toilet, sand box or saucepan. In the case of conventional
- 15 packs this function is ensured in that the pack is opened at a point located in its top part and pouring out is brought about by raising and inclining the pack. As from a certain pack size, this discharge process requires considerable effort and involves considerable activity on the part of the other arm for targeting and for dosing the poured material. Such a pouring material discharge procedure is fatiguing and
- 20 uncomfortable.

#### SUMMARY OF THE INVENTION

- The object of the invention is to provide a pack, which ensures comfortable handling both during pouring and lifting and carrying and which is at the same time inexpensive, because it is easy to manufacture.
- 25
- According to the invention this object is achieved in that a handle comprising at least one flap is arranged in eccentrically displaced manner on one of the faces of the pack,

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i.e., is positioned eccentrically along an axis of symmetry of the face parallel or perpendicular to the flap running direction.

Preferably, the angle  $\alpha$  between an axis of symmetry passing through the center of gravity, which is perpendicular to the face to which the handle is fitted and an imaginary axis passing through a support point, formed by hand contact, on the flap or flaps and the center of gravity, exceeds  $0^\circ$ . The angle  $\alpha$  is in the range  $2$  to  $40^\circ$ .

According to a preferred embodiment of the invention the angle  $\alpha$  is in the range between  $5$  and  $30^\circ$  and is preferably  $10^\circ$ .

According to one embodiment, the handle is so fitted to one of the faces of the pack that it is positioned centrally along an axis of symmetry of the face perpendicular to its own longitudinal axis described by the flap running direction and eccentrically along another axis of symmetry of the face parallel to the flap running direction.

The inventive construction of a pack is characterized in that the problems of the pouring, lifting and carrying comfort, as well as the inexpensive manufacture are solved in an ideal manner. In the case of a suitable choice of the eccentricity of the handle the carrying comfort is in no way impaired. The eccentric fitting of a handle to the pack ensures an automatic inclination of the pack in the pouring direction, so that pouring is made easier. The eccentricity of the handle is sufficient to ensure much easier pouring. The eccentricity of the handle is sufficient to ensure much easier pouring, but the carrying comfort is not reduced. Thus, the handle of such a pack in the unopened state forms an ideal carrying and holding handle.

## BRIEF DESCRIPTION OF THE DRAWING

The invention is described in greater detail hereinafter relative to the attached drawings, wherein show:

- Fig. 1a      The eccentric fitting of a handle to a pack according to the invention.
- 5   Fig. 1b      The angle of inclination  $\alpha$  in the case of an eccentric fitting of a handle to the pack.
- Fig. 2      A diagrammatic representation of the side lengths and inclination angles, which can occur in the case of an eccentric fitting of a handle to a pack, as a function of the dimensions thereof.
- 10   Fig. 3      A diagrammatic representation of an embodiment in which, due to the eccentric fitting of the handle, the inclination angle  $\alpha$  exceeds  $45^\circ$ .
- Fig. 4      A diagrammatic representation of an embodiment in which, due to the eccentric fitting of a handle, the inclination angle  $\alpha$  is  $30^\circ$ .

## DESCRIPTION OF THE PREFERRED EMBODIMENTS

- 15   A conventional pack for strewing and pouring material can, in a first approximation, be represented in simplified form by a parallelepiped. However, the following considerations also apply for packs, which can in a first approximation be represented by a cylinder or a conical or pyramidal frustum. However, for reasons of geometrical simplicity the invention is explained hereinafter relative to a
- 20   parallelepiped.

Figs. 1a and 1b diagrammically show a pack, in which the handle is eccentrically fitted in the above-described manner, which results in an inclination angle  $\alpha$  is dependent on the eccentricity of the handle on the pack. The further outwardly the

25   handle is fitted, the greater the inclination angle  $\alpha$ . The handle is eccentrically fitted along the axis of symmetry 1. The double arrow represents the viewing direction,

which is assumed in the following representations and 2 is another axis of symmetry, perpendicular to 1. I is a projection of the lateral face of a pack with eccentrically fitted handle and which for reasons of simplicity has been represented as II. Position III is assumed on holding the handle. There is an angle  $\alpha$ ,  $\neq 0^\circ$  between the central longitudinal axis of symmetry of the lateral face 3 and the “new” perpendicular 4. S is the center of gravity of the lateral face.

Fig. 2 describes the sides and inclination angles which can arise when a handle is eccentrically fitted to a pack and in which b is the side length of the pack plus the handle height and c is the eccentricity of the hand support point B of the handle from the median perpendicular of the lateral face 3, which passes through the center of gravity S, as well as the point A. The line passing through the points A or center of gravity S is one of the axes of symmetry of the body. Point B is an idealized support point essentially formed by the hand contact on the handle flap and the line 4 passing through point B and the center of gravity S and forms an angle of inclination  $\alpha$  to 3 when holding the pack by the handle. The magnitude of this inclination angle is dependent on the length of the pack b and the eccentricity of the handle c. Thus, the angle  $\alpha$  is the arc tangent of the quotient of c and b/2. If c is expressed as a fraction of b/2, it is possible to calculate the arc tangent for different eccentricities (different c-values). The following values are obtained:

$$c = 4 \text{ b/2} \rightarrow \arctan 2 = 63.4^\circ$$

$$c = 19/5 \text{ b/2} \rightarrow \arctan 1.9 = 62.2^\circ$$

$$c = 9/5 \text{ b} \rightarrow \arctan 1.8 = 60.9^\circ$$

$$c = 17/10 \text{ b/2} \rightarrow 1.7 = 59.5^\circ$$

$$c = 8/5 \text{ b} \rightarrow \arctan 1.6 = 58^\circ$$

$$c = 3/2 \text{ b} \rightarrow \arctan 1.5 = 56.3^\circ$$

$$c = 7/5 b \rightarrow \arctan 1.4 = 54.5^\circ$$

$$c = 13/5 b/2 \rightarrow \arctan 1.3 = 52.4^\circ$$

etc.                      etc.

$$c = b/2 \rightarrow \arctan 1 = 45^\circ$$

$$5 \quad c = 3/5 b/2 \rightarrow \arctan 3./5 = 31^\circ$$

$$c = 1/2 b/2 \rightarrow \arctan 1/2 = 26.6^\circ$$

$$c = 1/10 b/2 \rightarrow \arctan 1/10 = 5.7^\circ$$

Fig. 3 shows a pack with an eccentrically fitted handle, in which the inclination angle  $\alpha$  is more than  $45^\circ$ . As is readily apparent from the drawing, this is precisely the case if the eccentricity  $c$  exceeds  $b/2$ . Expressed more graphically, this means that the handle is eccentrically fitted to the longer side of the rectangle describing the parallelepiped. Extreme inclination angles are possible with such a fitting. However, normally, with the pack full, such an eccentricity is disadvantageous for the carrying comfort.

Fig. 4 is a diagrammatic representation of a pack with an eccentrically fitted handle, in which the angle of inclination is approximately  $30^\circ$ . This is precisely the case if the eccentricity  $c$  is between 0.5 and 0.6 times the half side length of the longitudinal side (including handle height) of the pack  $b$ .

It has been found that an inclination angle between  $10$  and  $40^\circ$  is optimum compromise between facilitated pouring comfort on the one hand an unimpaired carrying comfort on the other. Although values of  $\alpha$  exceeding  $45^\circ$  facilitate the pouring of the material, they are disadvantageous for carrying due to the extreme eccentricity of the handle. Conversely inclination angle values smaller than  $10^\circ$

improve the carrying comfort, but do not offer the same pouring comfort as can be expected with handles having a greater eccentricity.

What has been stated in the above description, drawings and claims with respect to

5 the eccentric fitting of a handle to a pack approximately described by a parallelepiped, essentially applied to other packs approximately described by regular geometrical bodies, such as e.g. cylinders or frustums of a cone. This also applies with respect to its applicability for the eccentric fitting of several instead of a single handle to a pack. This can be important if e.g., following a partial consumption of the pouring material

10 in the pack, a greater inclination angle is necessary for the comfortable pouring out of the still remaining materials. Than can be solved by further, eccentrically fitted handles on the pack.

The features of the invention disclosed in the above description. Claims and drawings

15 can be essential to the implementation of the various embodiments of the invention both singly and in random combination.

- 6 -

CLAIMS

1. Pack with at least one holding and carrying handle comprising at least one flap, characterized in that the handle is so fitted to one of the faces of the pack that it is arranged eccentrically along an axis of symmetry (1) of the face parallel or perpendicular to the flap running direction.
2. Pack according to claim 1, characterized in that the angle  $\alpha$ , between an axis of symmetry (3) running through the centre of gravity (S) and which is perpendicular to the face to which the handle is fitted, and an axis (4), which passes through a support point (B) on the flap or flaps formed by a hand contact, as well as the centre of gravity (S), exceeds  $0^\circ$ .
3. Pack according to claims 1 and 2, characterized in that the angle  $\alpha$  is in the range 2 to  $40^\circ$ .
4. Pack according to claim 3, characterized in that the angle  $\alpha$  is preferably in the range between 5 and  $30^\circ$ .
5. Pack according to claim 4, characterized in that said angle  $\alpha$  is preferably  $10^\circ$ .
6. Pack according to one of the preceding claims, characterized in that the handle is so fitted to one of the faces of the pack that it is positioned centrally along an axis of symmetry (2) of the face perpendicular to its own longitudinal axis described by the flap running direction and eccentrically along another axis of symmetry (1) of the face parallel to the flap running direction.

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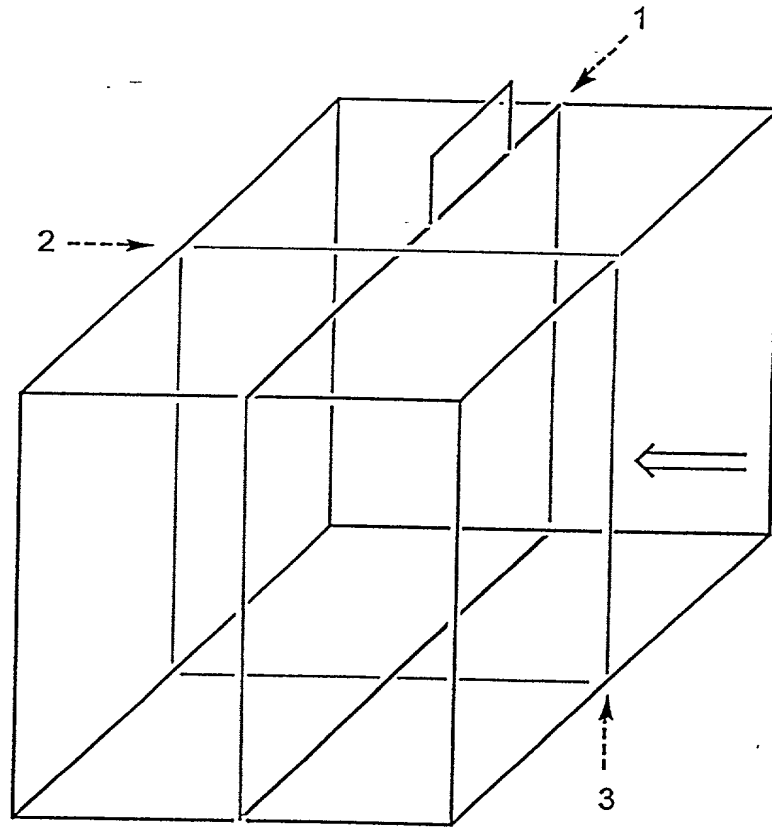


Fig. 1a)

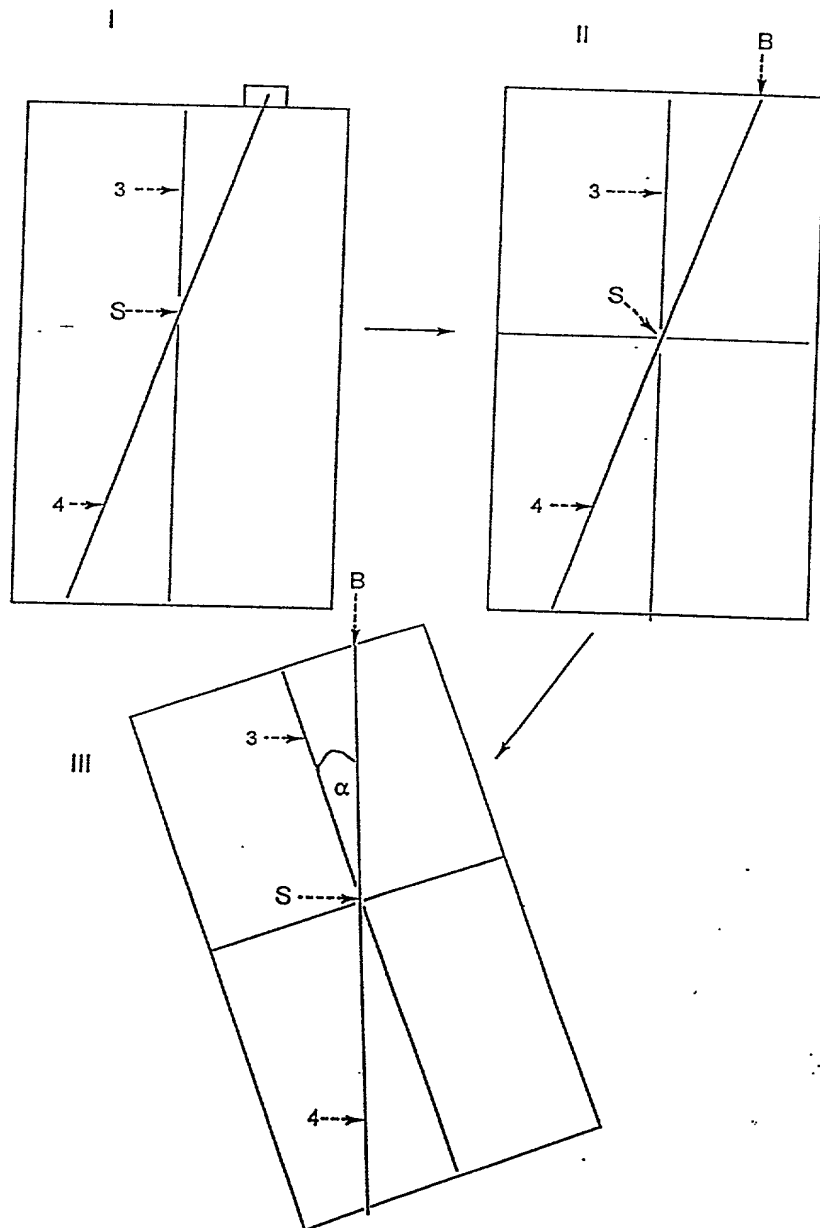


Fig. 1b)

375

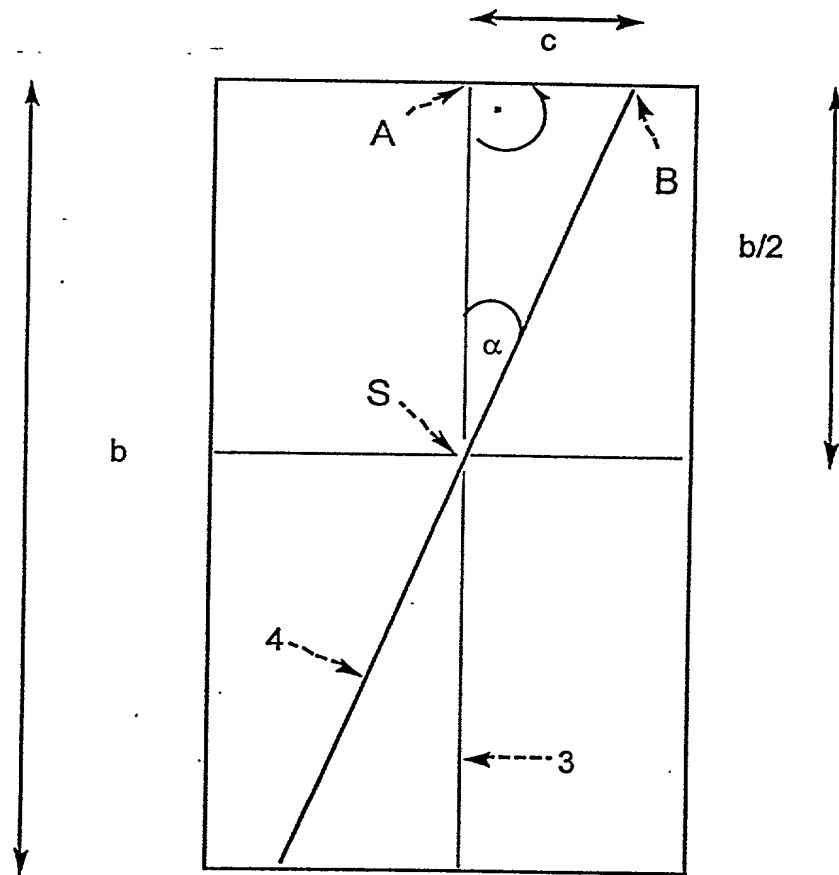
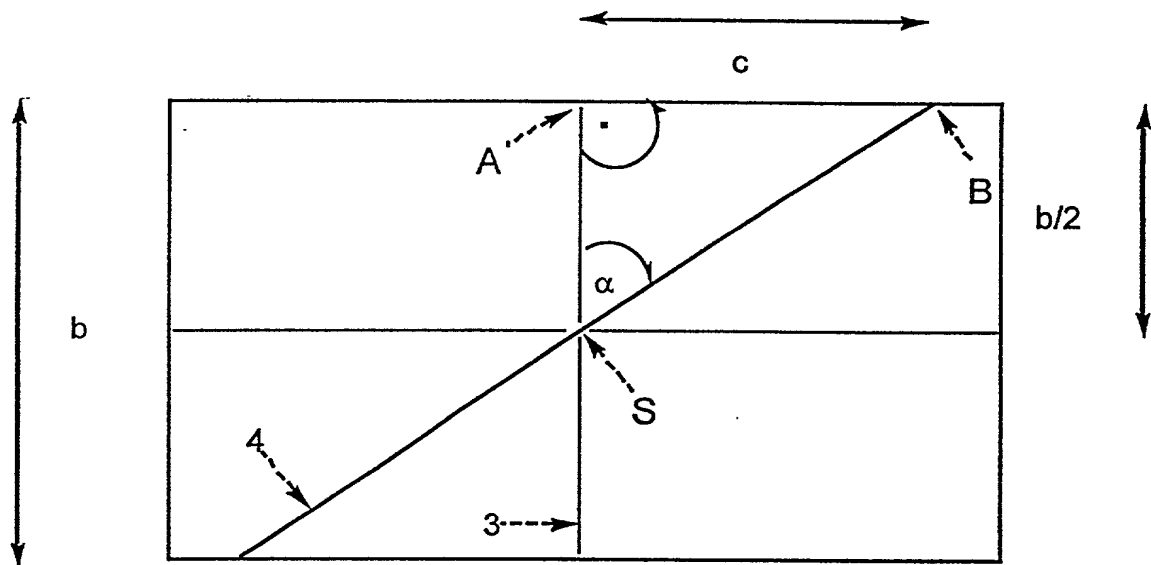


Fig. 2

4/5



$$\alpha > 45^\circ$$

Fig. 3

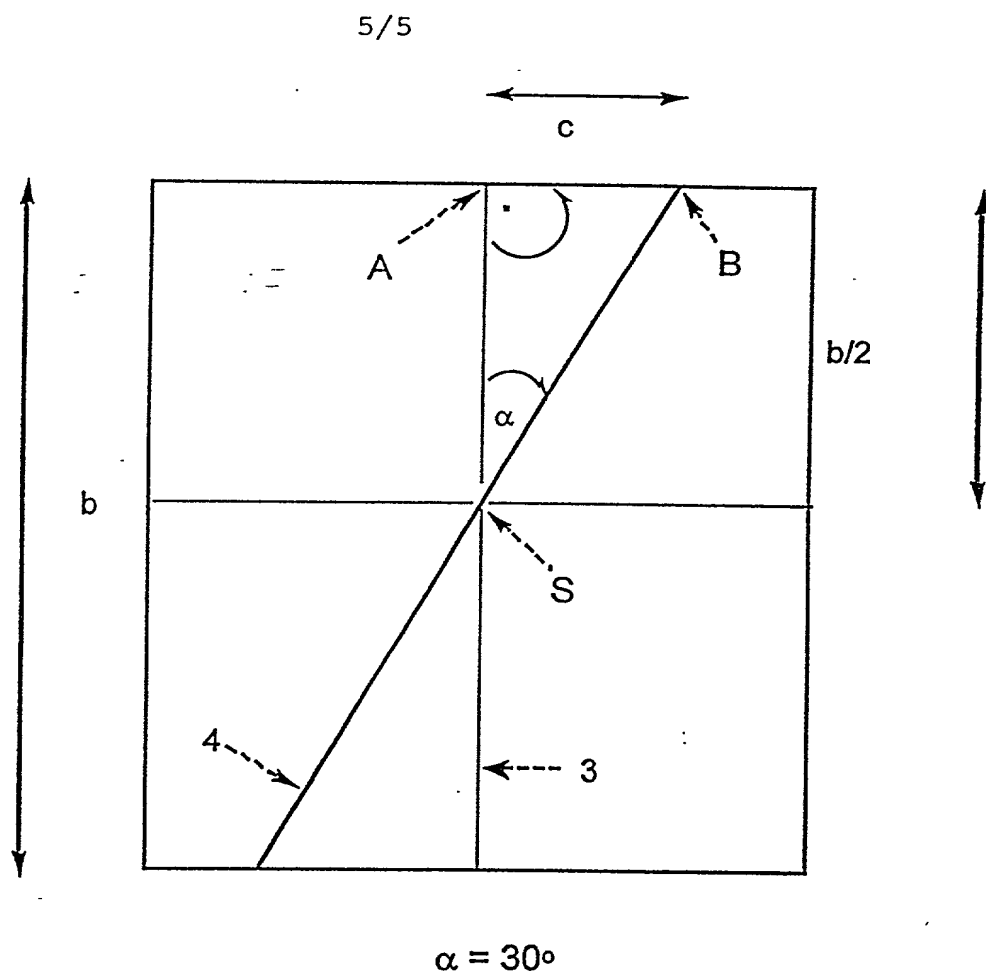


Fig. 4

Docket No.  
11042.00

# Declaration and Power of Attorney For Patent Application

## English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

PACK

the specification of which

(check one)

☒ is attached hereto.

☐ was filed on \_\_\_\_\_ as United States Application No. or PCT International

Application Number \_\_\_\_\_

and was amended on \_\_\_\_\_

(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d) or Section 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)

Priority Not Claimed

\_\_\_\_\_  
(Number) (Country) (Day/Month/Year Filed)

☐

\_\_\_\_\_  
(Number) (Country) (Day/Month/Year Filed)

☐

\_\_\_\_\_  
(Number) (Country) (Day/Month/Year Filed)

☐

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application(s) listed below:

\_\_\_\_\_  
(Application Serial No.)

\_\_\_\_\_  
(Filing Date)

\_\_\_\_\_  
(Application Serial No.)

\_\_\_\_\_  
(Filing Date)

\_\_\_\_\_  
(Application Serial No.)

\_\_\_\_\_  
(Filing Date)

I hereby claim the benefit under 35 U. S. C. Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. Section 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, C. F. R., Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

PCT/DE99/04124

24 December 1999

Pending

\_\_\_\_\_  
(Application Serial No.)

\_\_\_\_\_  
(Filing Date)

\_\_\_\_\_  
(Status)  
(patented, pending, abandoned)

\_\_\_\_\_  
(Application Serial No.)

\_\_\_\_\_  
(Filing Date)

\_\_\_\_\_  
(Status)  
(patented, pending, abandoned)

\_\_\_\_\_  
(Application Serial No.)

\_\_\_\_\_  
(Filing Date)

\_\_\_\_\_  
(Status)  
(patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**POWER OF ATTORNEY:** As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. *(list name and registration number)*

Dorsey & Whitney LLP - Customer No. 20686

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Full name of second inventor, if any <b>Jurgen Hommola</b>	
Second inventor's signature <i>Jurgen Hommola</i>	Date <i>02.10.01</i>
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